

SOLVING CONSTRAINT SATISFACTION PROBLEMS USING VARIABLE-
RANGE HOPPING

ABSTRACT

A method for solving a constraint satisfaction
5 problem (CSP) includes choosing a first state
corresponding to a first set of values of a set of
variables, and selecting a hop distance within a state
space of the variables responsively to a random distance
selection criterion. A second state corresponding to a
10 second set of the values of the variables is selected,
such that the second state is separated from the first
state by the hop distance. Constraint costs of the first
and second states are compared. If the cost of the
second state is lower than the cost of the first state,
15 the first state is redefined to correspond to the second
set of the values of the variables. These steps are
repeated until a solution of the CSP is found.